

Claims

1. A method of ionizing surfaces of polymer-molded goods to intercept electromagnetic waves passing therethrough, comprising:

5 a first step of maintaining a main chamber and first and second pre-chambers located before and after the main chamber, which constitute a vacuum unit, under reduced pressure of 10^5 torr using a vacuum pump;

10 a second step of holding objective products, to be irradiated by ions, by a spring holder positioned on a carrier of an inlet chamber, and transferring the objective products held in the spring holder through a preheating chamber and the first pre-chamber into the main chamber;

15 a third step of generating plasma by heating of a filament or arc generation of an ionization gun while controlling an ion beam current of electric power supplied to an ion generating gun in the main chamber to a predetermined level, adding helium gas, argon gas, or nitrogen gas into the plasma to yield gas cations, and
20 irradiating the gas cations to the objective products; and

a fourth step of moving the resulting ionized products from the main chamber to the second pre-chamber using the carrier, and then discharging the resulting ionized products through an outlet chamber.

2. The method as set forth in claim 1, wherein the main chamber is under a nitrogen gas (N₂) atmosphere or an argon gas (Ar) atmosphere.

5 3. The method as set forth in claim 1, wherein the main chamber is under a helium gas (He) atmosphere.

4. The method as set forth in claim 1, wherein the ion beam current is controlled in conformity to heat tolerance of the objective products when an ion beam is irradiated to the objective products.

10 5. The method as set forth in claim 1, wherein an irradiation time of the ion beam current to the objective products is controlled so as to regulate surface electric conductivities of the objective products when an ion beam is irradiated to the objective products.

15 6. The method as set forth in claim 1, wherein an intensity of the ion beam current is controlled so as to regulate surface electric conductivities of the objective products when an ion beam is irradiated to the objective products.